CCS Technical Documentation
RH-48 Series Transceivers

Service Tools

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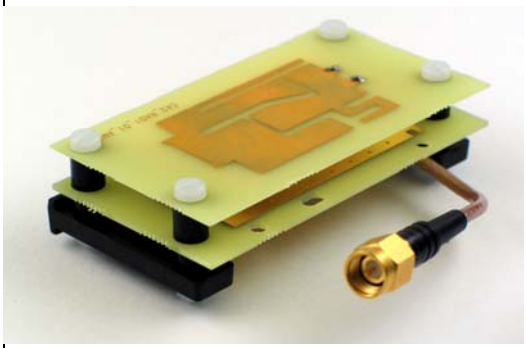
Model 3105 Service Tools

JBV-1 Docking Station	MJF-17 Docking Station Adapter
0770298	0774282
The Docking Station and the Docking Station Adapter are needed for Mbus, Fbus, RF, and audio connections. This setup allows connection between flash prommers. When the audio box is connected, it has to be connected to the phone's audio connector. The Docking Station can be powered by FPS-8 or external power supply.	The docking station adapter enables tuning, testing, and flashing.

CPL-8 RF Coupler	RJ-32 Rework Jig
0770475	0770757
	
CPL-8 allows antenna testing at AMS locations. *Shield Box JSX-1A is required.*	The rework jig is a PWB component that allows de-soldering and soldering.

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JXS-1 Shield Box	DKU-5F Flash Cable
0770346	0780738
The Shield Box allows RF radiated tests and antenna testing. Contact the Americas AMS in Melbourne, FL for more information on how to obtain one.	For use with the Spirent UPST and UMPP service software. *Note: The cable cannot be used as a straight through USB connection cable.*

FPS-8 Flash Prommer	XCS-1 Service Cable
0080321	0730218
The Flash Prommer FPS-8 is used for flashing at service centers with Phoenix service software.	This cable is required for FLS-4S operation if flash adapter FLA-30 is used. *Note: This cable can be replaced with CA-22DS for bottom connector flashing.*

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XCS-4 General Purpose Cable	CA-5S DC Service Cable
0730178	0730283
XCS-4 Service Cable is a modular cable for flashing DCT4 products.	The DC Service Cable (CA-5S) connects the docking station (JBV-1) to the charger connection (Vin) of the phone to conduct EM calibration. *Note: CA-5S replaces the SCB-3 cable (0730114).*

PCS-1 Power Cable	FLC-20 Flash Device
0730012	0081544
The PCS-1 Power Cable is used to connect the service tools to an external power supply.	This is a USB flash cable (per Verizon requirements). Kit includes a detachable USB cable. *Note: FLC-20 requires DCT3 or DCT4 cable to handset.*

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FLS-4S POS Flash Dongle	DAU-9T MBUS Data Cable
0080543	0730267
The Point of Sale (POS) flash is a low-cost software upgrade tool. This requires XCS-1 cable and ACF-8 for operation.	FBUS cable DAU-9T provides a connection from the serial port of the computer to the system connector of the phone.

DAU-9S (MBUS) Cable	CA-25RS RF Test Cable
0730108	0730316
DAU-9S is a general-purpose communications cable.	This test cable is used for CDMA RF engine testing and tuning.

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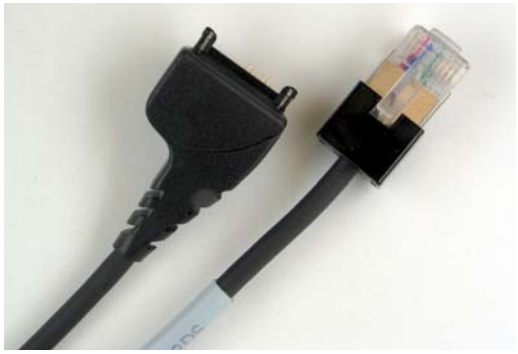
CA-22DS Service Cable	MJ-23 Module Test Jig
0730311	0770650
	
This cable is used for bottom connector flashing using FLS-4S or FLC-20.	This jig allows phone PWB-level service and trouble-shooting for authorized service centers.

PKD-1 SW Security Device	FLA-30 Flash Adapter
0750018	0770472
SW security device (PKD-1) is a hardware device that, when connected to the parallel (LPT) port of the PC, enables the use of service software. Without the dongle present, it is not possible to use the service software. Printers or other peripheral devices can be connected to the PC through the dongle, if needed. *Caution: Make sure that you have switched off the PC and the printer before making connections!*	FLA-30 allows power and flash connection through the battery compartment.

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SS-13 Tuning Docking Station (CDMA)	XRS-6 RF Test Cable
0080852	0730231
SS-13 is used with the MJF-x/DA-x flashing adapters (shown with MJF-17).	This is a general-purpose RF cable.

Flashing, Testing, and Tuning

Tightened performance specifications require more precise equipment and methods for testing and alignment. Manual tuning can't provide accurate results for the RH-48, which means that this test has to be automated.

These setups are intended to be with with the Phoenix Service Software. Both manual testing and automated tuning are permitted with Phoenix Service Software.

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Point of Sales Flashing

Item	Name	Type	Code
1	FLS-4S flash device (sales pack) (ACF-8 power supply is included in the FLS-4S sale pack)	FLS-4S	0080543
2	Service cable	CA-22DS	0730311
3	Point-of-sale service software	Diego Phoenix	8405139 8407840
NOTE	Other POS flashing configurations available: USB single-flash cable (DCT4 only) USB flash cable for DCT3/DCT4 handsets	DKU-5F FLC-20	0080738 0081544

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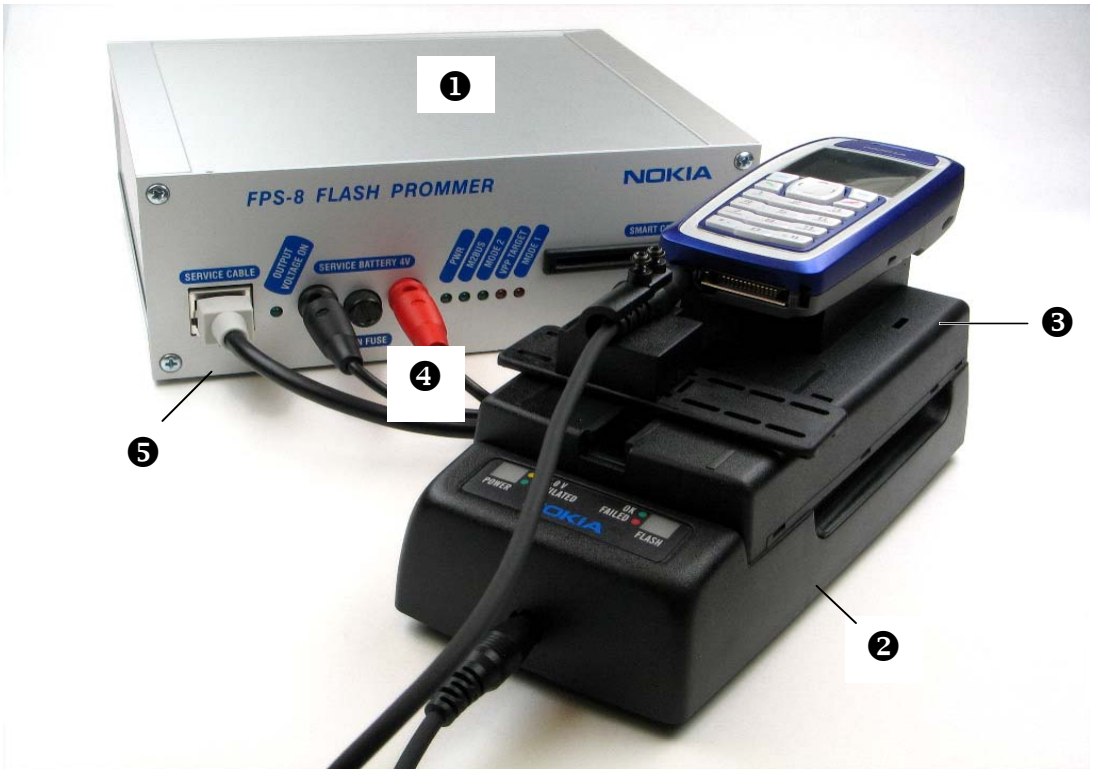
Flash Programming Using Docking Station (JBV-1 and MJF-17)



Item	Name	Type	Code
1	Flash prommer box (sales pack) Included in FPS-8 sales pack: Service cable Serial cable Power supply	FPS-8 CA-10DS AXS-4 ACF-8	0080321 0730298 0730090 0680032
2	Docking station	JBV-1	0770298
3	Docking adapter	MJF-17	0774282
4	DC power cable	PCS-1	0730012
5	Modular cable	XCS-4	0730178
	Software protection key (not shown)	PKD-1	0750018
	Service software	CDMA Phoenix	8407840

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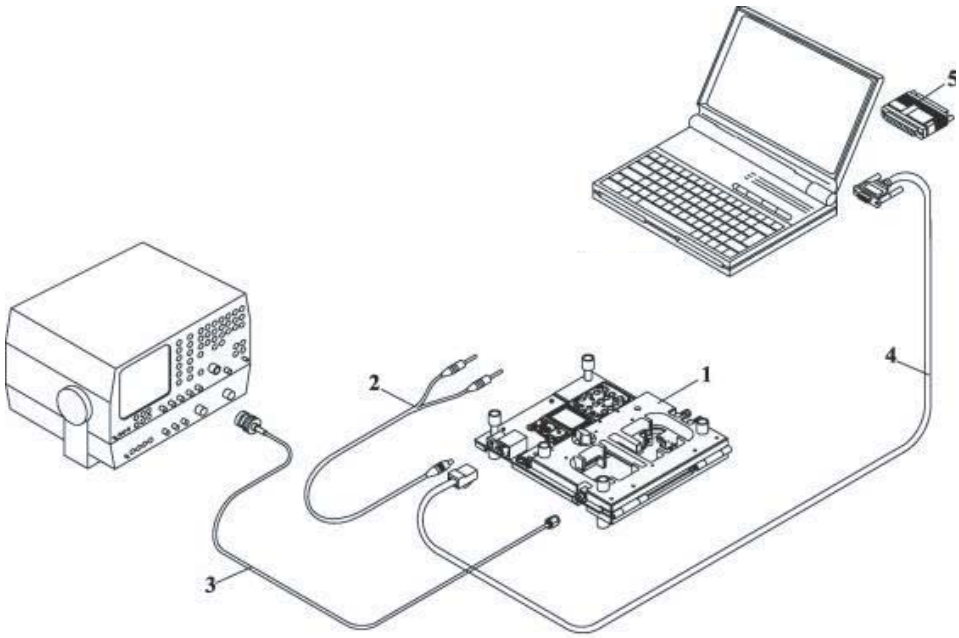
Covers-Off Troubleshooting Using Service Jig (MJ-23)



Item	Name	Type	Code
1	Module repair jig includes RF test cable	MJ-23 CA-25RS	0770650 0730316
2	DC power cable	PCS-1	0730012
3	RF test cable	XRS-6	0730231
4	Service MBUS/FBUS cable	DAU-9S	0730108
5	Software protection key	PKD-1	0750018
	Service software (not shown)	Phoenix	8407840

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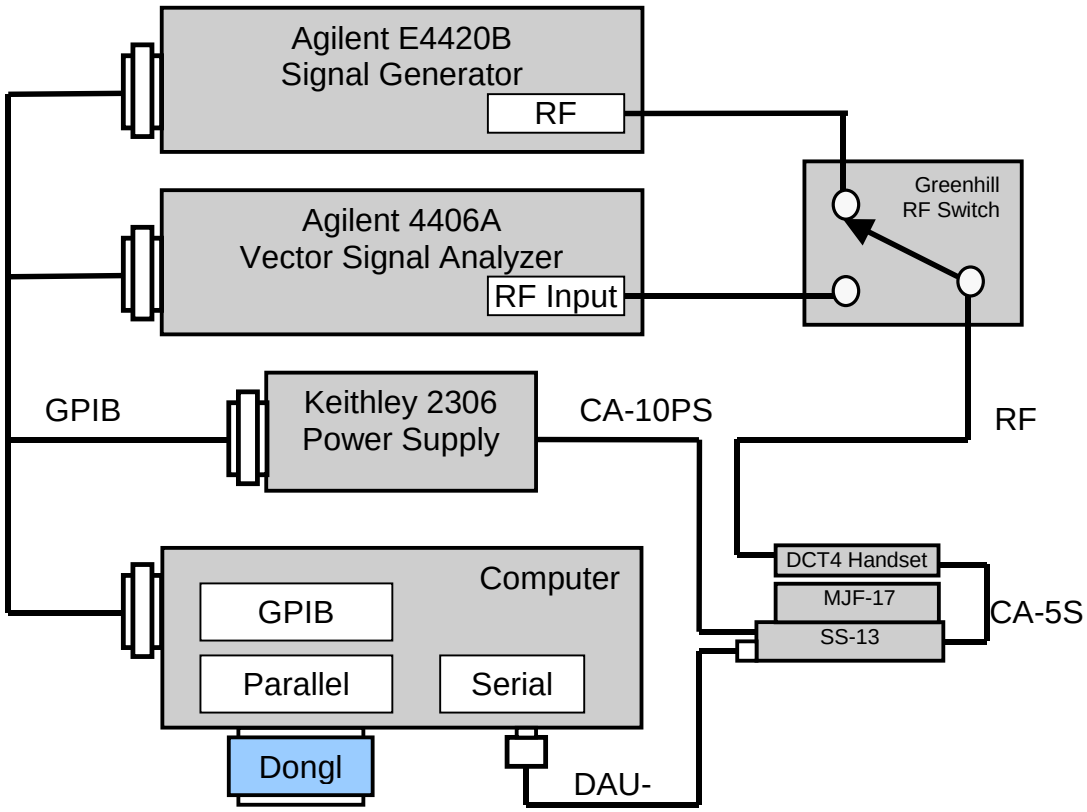
Automated Tuning and Alignment

This setup is used for tuning of the handset at Nokia Authorized Service Centers..



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Automated Tuning and Alignment Equipment List

Item	Name	MFR	Model #	QTY	Comment
1	Vector Signal Analyzer	Agilent	E4406A	1	
2	Signal Generator	Agilent	E4421B	1	Digital signal generator with high-stability oscillator and high-spectral purity
3	RF Series	GreenHill	TVi9901	1	
4	Power Supply	Keithly	K2306	2	Programmable with sense wire
5	Win2000 PC				Dell with Pentium III or above, network card, 256M RAM, 20GB HD, CD-ROM, etc.
6	NI-GPIB Interface	NI	GPIB-USB-A	2	USB to GPIB adapter (184983G-01)
7	Docking Station	Nokia	SS-13	1	For DCT4 handset tuning. SS-13 is specifically designed for CDMA RF tuning.

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